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10/014,310	12/11/2001	Ritesh P. Shah	32120-CON1	4218

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EXAMINER

OLTMANS, ANDREW L

ART UNIT PAPER NUMBER

1742

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/014,310

Applicant(s)

SHAH ET AL.

Examiner

Andrew L Oltmans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-40, 42, 43, 47-55, 57, 58, 61 and 68-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-37, 42, 43, 47-52, 57, 58, 68-72, and 74-75 is/are allowed.
- 6) ☒ Claim(s) 38-40, 53-55, 61, 73 and 83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Terminal Disclaimer***

1. The terminal disclaimer filed on December 1, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,348,139 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Status of the Claims***

2. Claims 32-40, 42, 43, 47-55, 57, 58, 61, 68-75 and 83 remain pending in this application. Claims 32-37, 42, 43, 47-52, 57, 58, and 68-75 are allowed. However, in view of reconsideration of the 35 USC 102 rejection made in the previous Office Action, a new ground for rejection under 35 USC 103 has been made. Because this Office Action contains new grounds for rejection, this Office Action is NON-FINAL.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Wright et al. "Textural and Microstructural Gradient Effects on the Mechanical Behavior of a Tantalum Plate" Metallurgical Transactions A, pages 1-17***

4. Claims 38-40, 53-55, 61, 73 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Wright et al. "Textural and Microstructural Gradient Effects on the Mechanical Behavior of a Tantalum Plate" Metallurgical Transactions A, pages 1-17 (Wright; cited on IDS filed February 6, 2003).

Wright teaches the tantalum product instantly claimed, wherein the tantalum product (i.e. plate, disc, blank, etc...) has the claimed purity (e.g., page 1, Table I) wherein the grain size is the instantly claimed grain size (page 3, Section B), and wherein the texture is the instantly claimed texture, including the instantly recited pole figure center peak intensities (e.g. Figure 4, 5 and 7), as recited in instant claims 38-40, 53-55, 61 and 73.

Wright fails to meet all the limitations of the instant claims in that Wright does not explicitly teach the exact purity range, the limitation "a maximum grain size of less than 50 microns", the property of being "substantially uniform" or the texture in which a {100} pole figure has a center peak intensity of about 17 random.

With respect to the purity, one of ordinary skill in the art at the time that the invention was made would have found the invention to be obvious because one of ordinary skill in the art would find the purifying of the product taught by Wright obvious because the product of Wright particular form or structure of the claimed material or suitable methods of obtaining that form or structure, see MPEP 2144.04 (VII), particularly Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) and In re Cofer, 354 F.2d 664, 148 USPQ 268 (CCPA 1966).

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With respect to the limitation “a maximum grain size of less than 50 microns”, the limitation has been interpreted to mean a maximum average grain size, because the recitation of an absolute maximum grain size would mean that no grain whatsoever could be outside the range of less than 50 microns. Even if the limitation was limited to a tantalum material having no grains whatsoever outside the grain size range of less than 50 microns, the claim language is open (i.e. “comprising” (see e.g. claim 38)), which allows the inclusion of non-claimed elements, including grain sizes outside the range less than 50 microns, see MPEP 2111.03. The teaching of the average taught by Wright (e.g. Table IV)) is sufficient to read on the claimed grain sizes.

With respect to the property of being “substantially” uniform, one of ordinary skill in the art at the time that the invention was made would have found the invention obvious because the term substantially is a relative term and fails to distinguish over the uniformity taught in Wright.

With respect to the property of having uniform texture and a texture in which a {100} pole figure has a center peak intensity of about 17 random, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition taught by the reference overlaps or is substantially identical to the composition recited in the claims, made by a substantially identical process, and therefore one of ordinary skill in the art would expect that the products taught by the references would be the same as applicant’s claimed product, including the product’s uniform texture and center peak intensity.

**“Where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.’ In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best 195 USPQ 430, 433 (CCPA 1977).”** see MPEP 2112.01. [emphasis added by examiner]

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It is further noted that claim 83 recites open claim language (i.e. "comprising"), which allows the inclusion of non-claimed elements including other textures in addition to the center peak intensity of 17 random, see MPEP 2111.03.

***Friedman, "Grain Size Refinement in a Tantalum Ingot" Metallurgical Transactions, pages 337-341***

5. Claims 38-40, 53-55, 61, 73 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, "Grain Size Refinement in a Tantalum Ingot" Metallurgical Transactions, pages 337-341 (Friedman).

Friedman teaches the tantalum product instantly claimed, wherein the tantalum product (i.e. plate, disc, blank, etc...) has the claimed purity (e.g. page 1, col 2) wherein the grain size is the instantly claimed grain size (page 1, col 1; page 340, col 2), as recited in instant claims 38-40, 53-55, 61, 73, and wherein the process of producing the material is substantially identical (deformation and anneal) to the method of making the claimed invention as recited in the specification (see page 11, lines 5-13 and pages 12-13).

Friedman fails to meet all the limitations of the instant claims in that Friedman does not explicitly teach the exact purity range, the limitation "a maximum grain size of less than 50 microns", the property of being "substantially uniform" or the texture in which a {100} pole figure has a center peak intensity of about 17 random.

With respect to the purity, one of ordinary skill in the art at the time that the invention was made would have found the invention to be obvious because one of ordinary skill in the art would find the purifying of the product taught by Friedman obvious because the product of Friedman particular form or structure of the claimed material or suitable methods of obtaining

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that form or structure, see MPEP 2144.04 (VII), particularly Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) and In re Cofer, 354 F.2d 664, 148 USPQ 268 (CCPA 1966).

With respect to the limitation “a maximum grain size of less than 50 microns”, the limitation has been interpreted to mean a maximum average grain size, because the recitation of an absolute maximum grain size would mean that no grain whatsoever could be outside the range of less than 50 microns. Even if the limitation was limited to a tantalum material having no grains whatsoever outside the grain size range of less than 50 microns, the claim language is open (i.e. “comprising” (see e.g. claim 38)), which allows the inclusion of non-claimed elements, including grain sizes outside the range less than 50 microns, see MPEP 2111.03. The teaching of the average taught by Friedman (e.g. Table IV)) is sufficient to read on the claimed grain sizes.

With respect to the property of being “substantially” uniform, one of ordinary skill in the art at the time that the invention was made would have found the invention obvious because the term substantially is a relative term and fails to distinguish over the uniformity taught in Friedman.

With respect to the property of having uniform texture and a texture in which a {100} pole figure has a center peak intensity of about 17 random, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the composition taught by the reference overlaps or is substantially identical to the composition recited in the claims, made by a substantially identical process, and therefore one of ordinary skill in the art would expect that the products taught by the references would be the same as applicant’s claimed product, including the product’s uniform texture and center peak intensity.

**“Where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best 195 USPQ 430, 433 (CCPA 1977). ‘When the PTO**

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shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.’ In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best 195 USPQ 430, 433 (CCPA 1977).” see MPEP 2112.01. [emphasis added by examiner]

It is further noted that claim 83 recites open claim language (i.e. “comprising”), which allows the inclusion of non-claimed elements including other textures in addition to the center peak intensity of 17 random, see MPEP 2111.03.

#### ***Allowable Subject Matter***

6. Claims 32-37, 42, 43, 47-52, 57, 58, 68-72, and 74-75 are allowed.
  - a. A primary reason for the allowance of claims 32-37, 42, 43, 47-52, 57, 58, 68-72, and 74-75 is that the prior art fails to teach or suggest, either alone or in combination, the instantly claimed combinations of crystallographic orientation, purity and/or grain sizes.

#### ***Response to Arguments***

7. Applicant's arguments filed January 9, 2004 have been fully considered but they are not persuasive. In view of applicant's amendments and the filing of the terminal disclaimer, the rejections over claims 32-37, 42, 43, 47-52, 57, 58, 68-72, and 74-75 have been withdrawn. Newly added claim 83 has been rejected under 35 USC 103. The rejections previously made under 35 USC 102 have been withdrawn. However, claims 38-40, 53-55, 61, 73 and 83 have been rejected under 35 USC 103 for the reasons set forth in the rejection above (see paragraphs 4 and 5, above). Because this Office Action contains new grounds for rejection, this Office Action is NON-FINAL.



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8. Applicant's argument have been considered with respect to the limitation "a maximum grain size of less than 50 microns"; however, the argument has not been found persuasive for the reasons set forth in the rejection above (see paragraphs 4 and 5, above).

9. Applicant's argument have been considered with respect to the limitation "substantially uniform texture"; however, the argument has not been found persuasive for the reasons set forth in the rejection above (see paragraphs 4 and 5, above).

10. With respect to the argument that the process steps are not substantially identical, the examiner maintains that the disclosures of both Friedman and Wright, including the disclosures of the various annealing and working steps (e.g. Wright: page 2, Section II (A), first paragraph; Friedman: page 1, col 1, first paragraph), is sufficient to conclude that the process steps are substantially identical. Applicant has not provided reasoning or evidence that establishes that the processing steps would not result in the claimed structures. Therefore, the arguments are not found persuasive.

11. For at least all of the above reasons, the arguments presented by applicant have not been found persuasive.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L Oltmans whose telephone number is 571-272-1248.

The examiner can normally be reached on 7:00-3:30 Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ALO

  
**ANDREW L. OLTMANS**  
**PATENT EXAMINER**